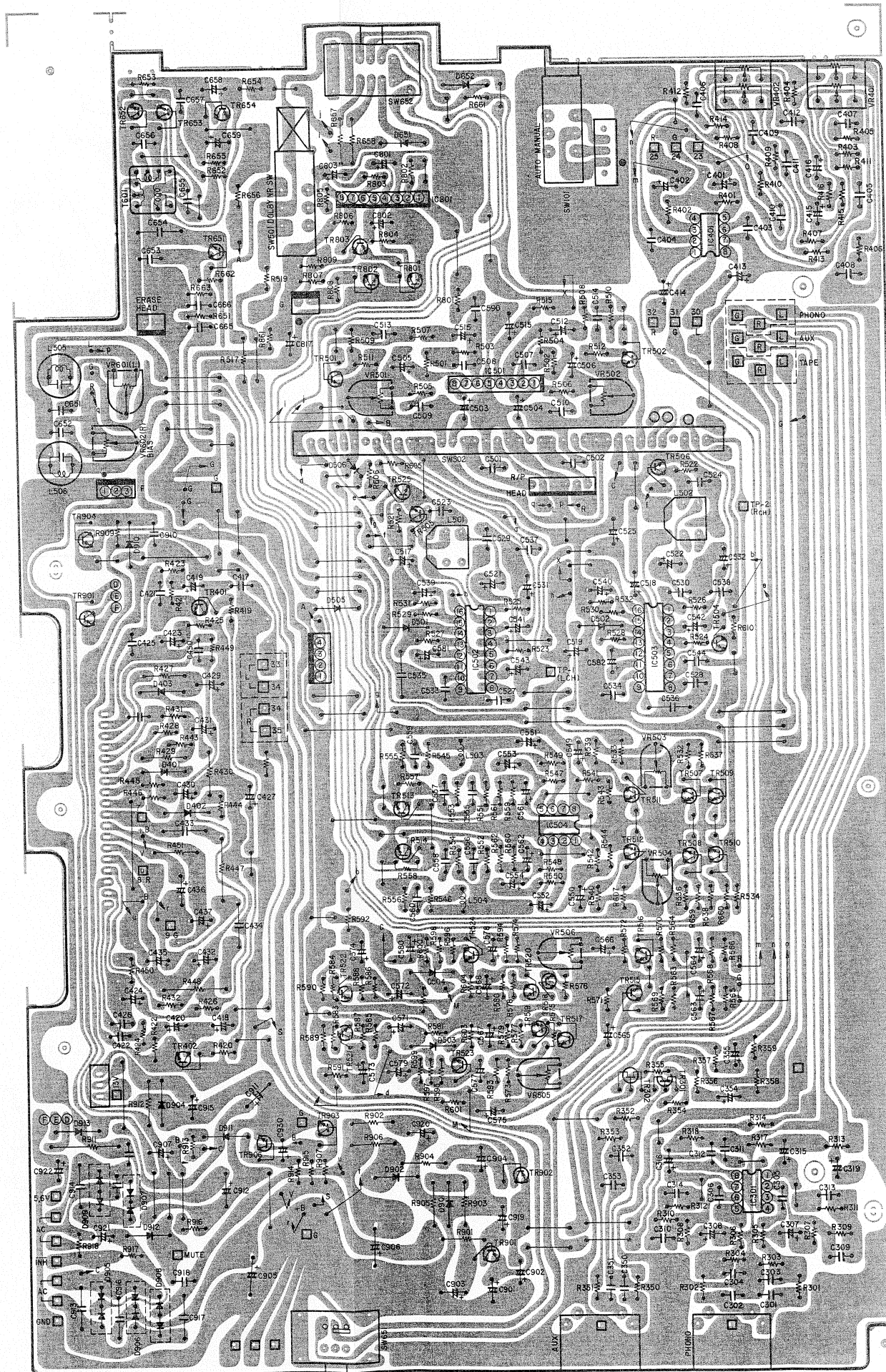
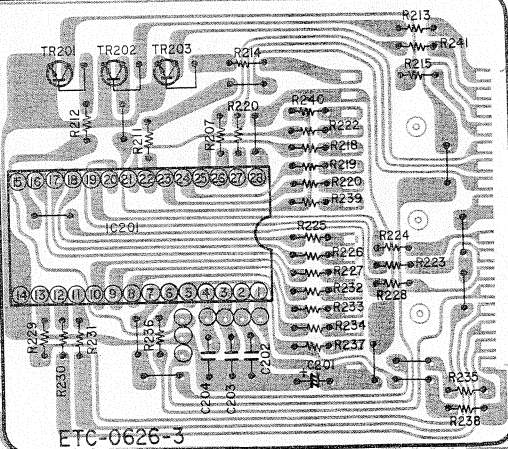
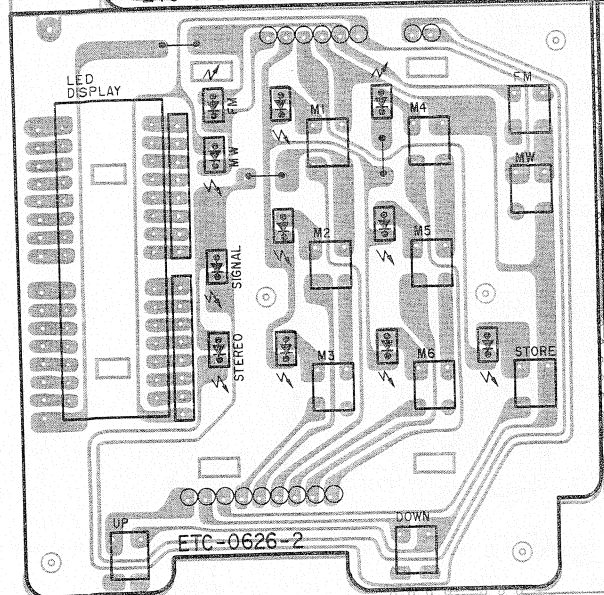
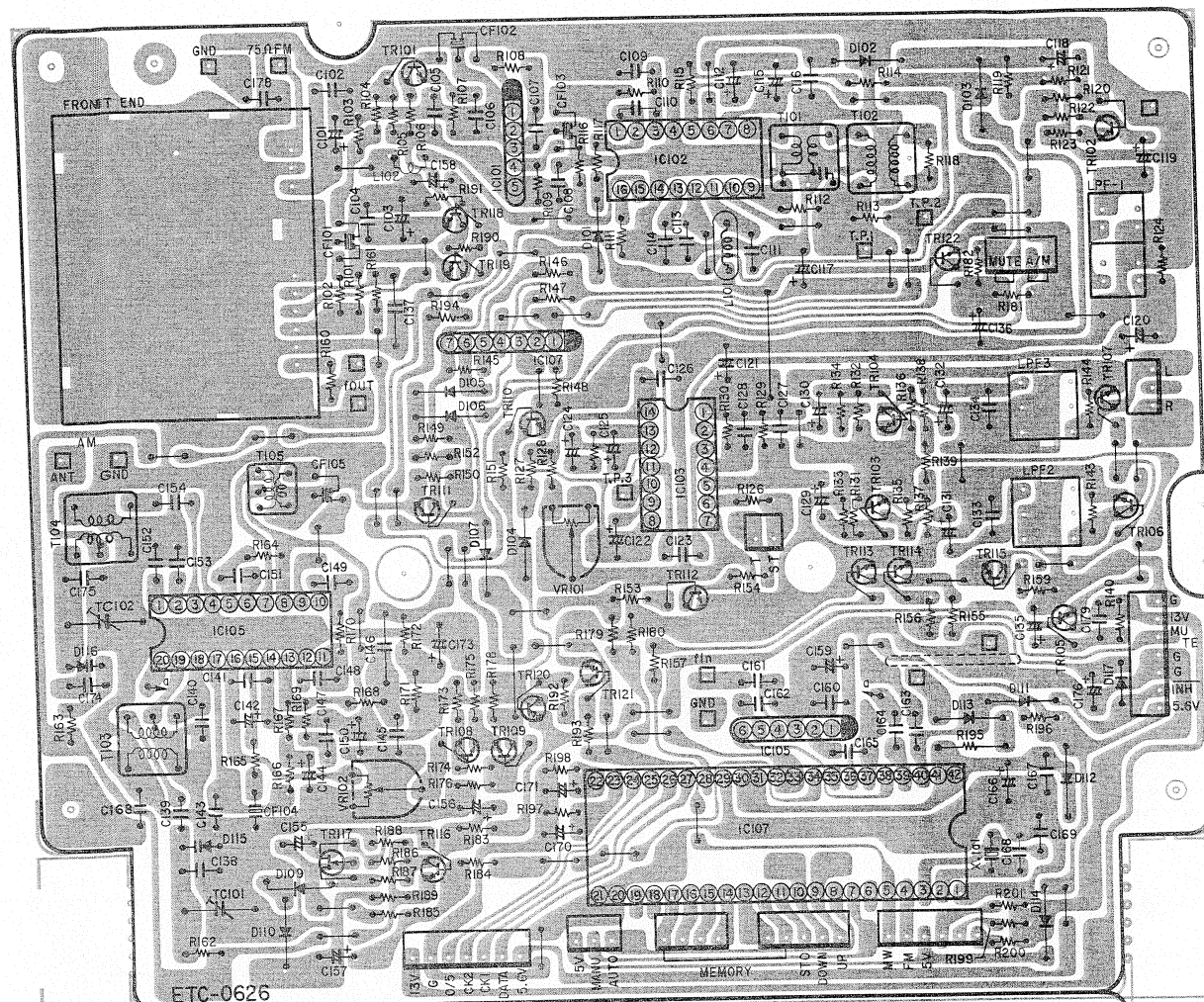
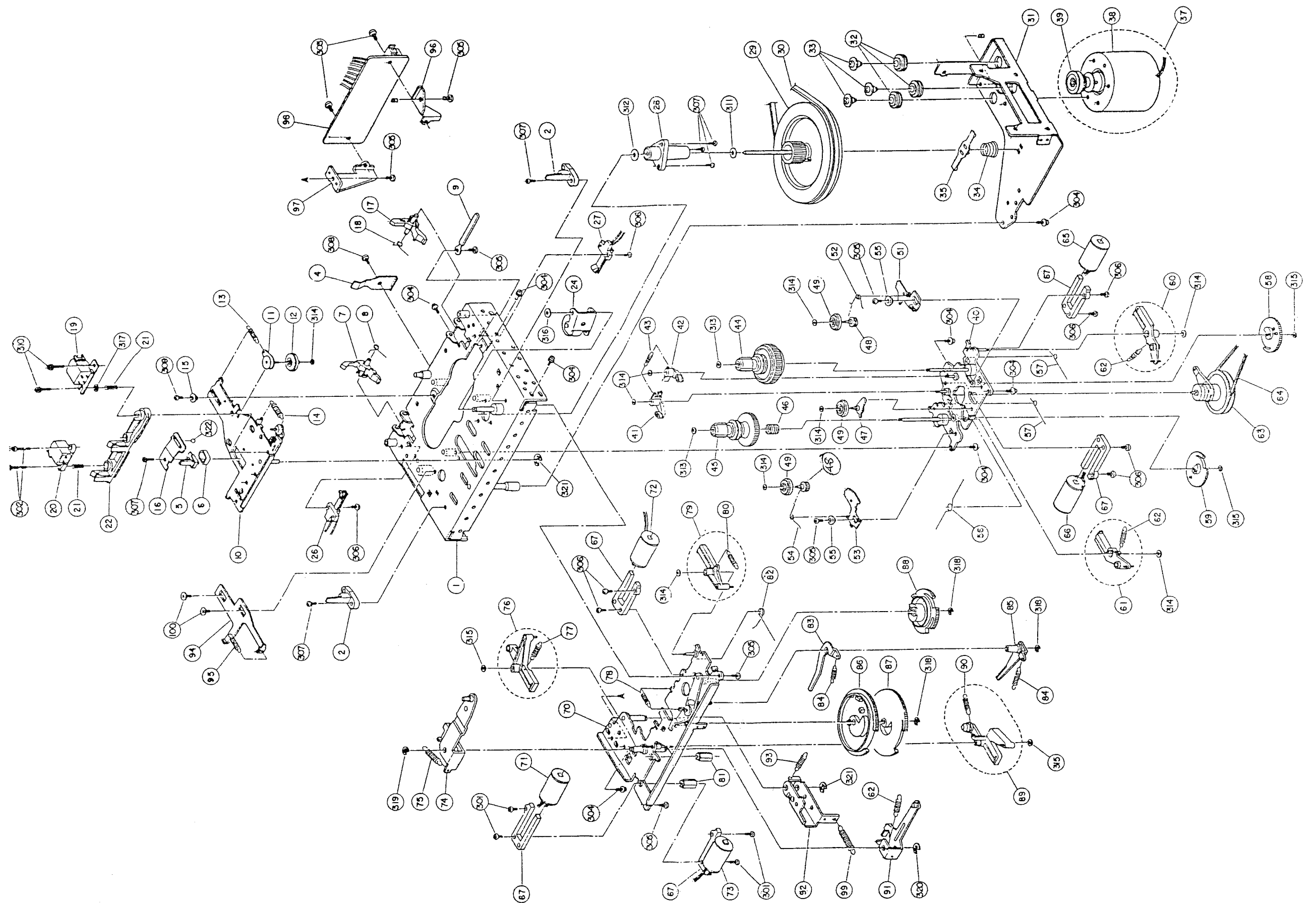




BESTELL-NR.	0242263
GERAETEBEZEICHNUNG	UNIV.-ST.-ANLAGE
WARENGATTUNG	652
AUSFUEHRUNGS-NR.	001
GERAETEBESCHREIBUNG	DIN 45500,SYNTHESIZER
PRIVILEG	VTC 2535
LIEFERANTEN-NR.	67889
PREIS	699.50
KATALOG	834
GARANTIEZEIT	6
KD-SEKTOR	R
HEIM/BRINGE	WERKSTATT
BETREUUNG	EIGEN
KOSTENTRAEGER	EIGEN
REPARATURFAEHIG	JA





METHOD OF ADJUSTMENT

DECK SECTION SPECIFICATIONS FOR MECHANICAL PARTS

Item	Standard	Remarks
Winding torque (PLAY)	35 ~ 75 gcm	SONY (TW-2111)
FF, REW torque	80 ~ 160 gcm	SONY (TE-2231)
Back tension torque	2 ~ 8 gcm	SONY (TW-2111)
Pinch roller pressure	350 ~ 550 g	Note 1
FF, REW duration	within 115 seconds	C-60, tape of 8 gcm

NOTE: Measurement for pinch roller pressure.

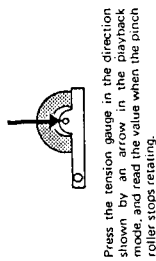


Fig. 1

ELECTRICAL ADJUSTMENT

Preparation for adjustment

- Tools and instruments required for adjustment
 - Small ordinary screw driver for semi-fixed resistor adjustment
 - Low-frequency oscillator
 - Attenuator
 - V.T.V.M
 - Oscilloscope
 - Frequency counter
- Test Tape (TEAC MTT-111, MTT-114, MTT-150, DENON DX-7, or equivalent)
- Digital voltmeter

Precaution for Adjustment

- Before adjustment, clean head surface, capstan shaft, and pinch roller with a soft cloth moistened with denatured alcohol.
 - Demagnetize recording head and erasing head with a demagnetizer.
 - Demagnetize the screw driver for adjustment.
 - Adjust attenuator so that 15 mV recording input is applied to AUX terminal.
 - Unless otherwise specified set the switches and controls as below, and apply input to AUX, and measure at TP-1 (L ch), TP-2 (R ch). Refer to Fig. 8 for Test point location.
- DOLBY NR Switch OFF, TONE Control (BASS, TREBLE) Center
TAPE SELECT Switch CR0, FUNCTION Switch for recording AUX
for playing back TAPE

Playback Adjustment

- Azimuth Adjustment (Fig. 2, 3)
Playback test tape (TEAC-114). Adjust azimuth screw so that obtain maximum A and minimum B in accordance with Lissajous' figure.
(Some oscilloscopes have A and B reversed. Be sure to check the phase of the signal in left channel is the same as that of right channel.)

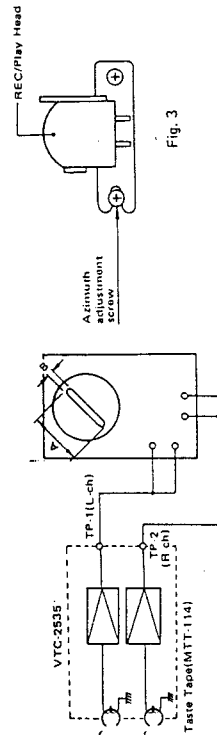
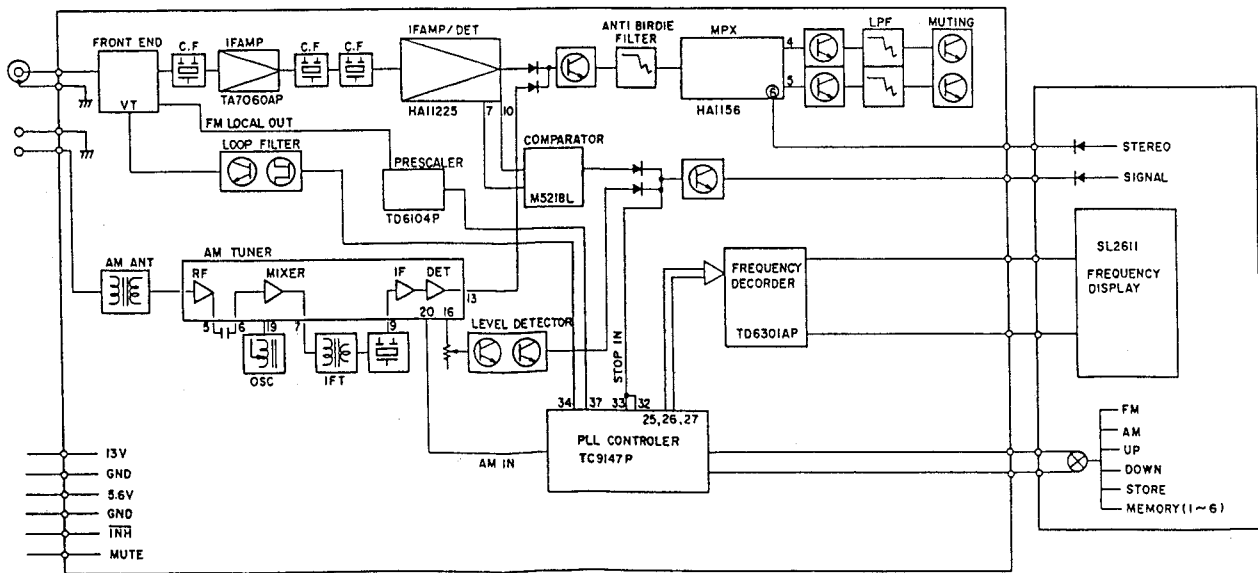


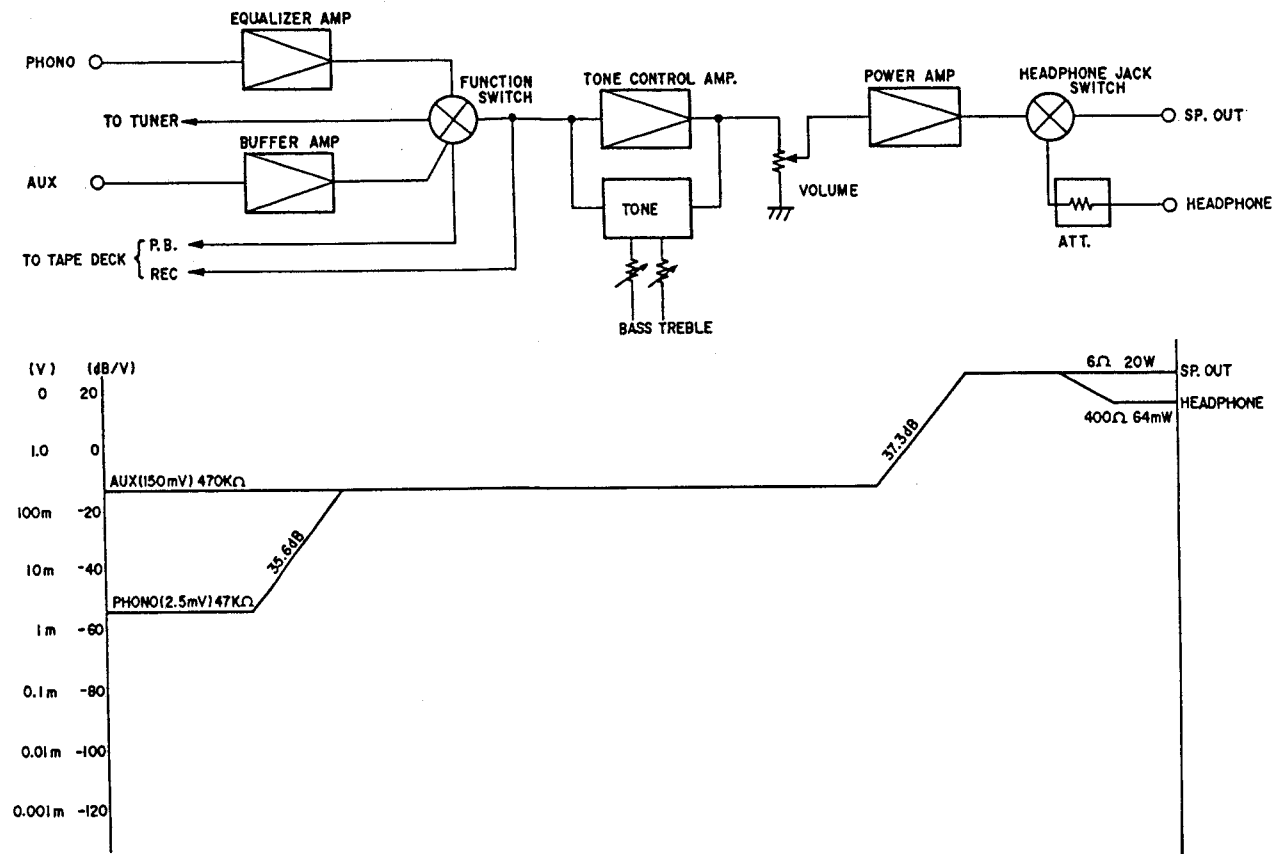
Fig. 2

Fig. 3

BLOCK DIAGRAM (TUNER UNIT) (VTC-2535)



BLOCK & LEVEL DIAGRAM (AMP. UNIT) (VTC-2535)



- Tape speed check and Adjustment (Fig. 4, 5)
Connect digital counter to test point and playback test tape (TEAC MTT-111). When the tape speed is stabilized, insert a screw driver through a hole on the back of motor and adjust the frequency to 3,000±15 Hz. After the adjustment seal the hole with a piece of polyester tape.

- Playback Level Adjustment
Playback Dolby reference level tape (TEAC MTT-150) and adjust VR501 (L ch) and VR502 (R ch) so that voltage at TP-1 and TP-2 reads 580 mV respectively.

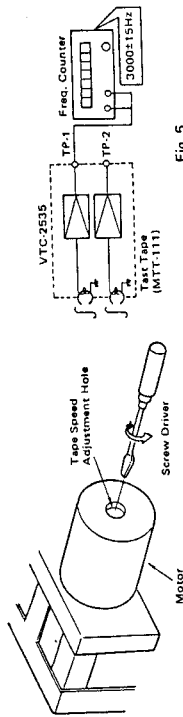


Fig. 4

Fig. 5

Recording Adjustment

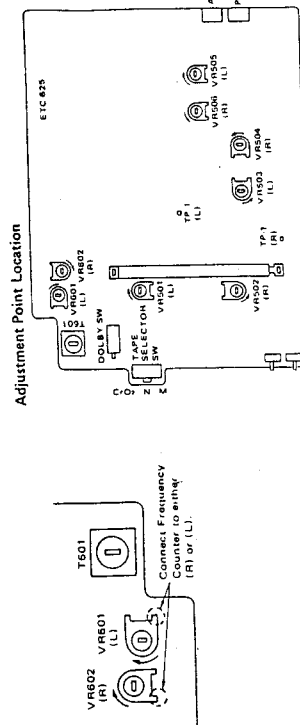
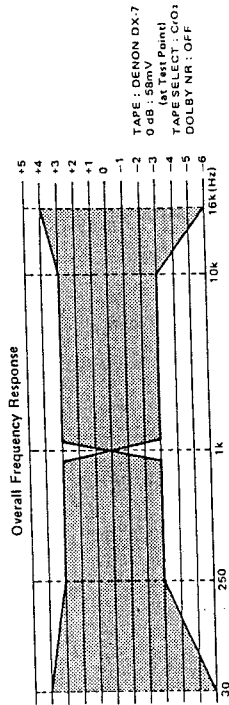
- Recording input level Adjustment
Apply 150 mV input signal to AUX, set the unit RECORD PAUSE, and adjust VR505 (L ch) and VR506 (R ch) so that the voltage at Test point reads 580 mV respectively.

- Overall Frequency Response Adjustment
Set TAPE SELECT switch to CR0, position. Record and playback 1 kHz and 10 kHz signals on the Tape (DENON DX-7) C-60 with 15 mV at AUX.

- To decrease 10 kHz level turn VR601 (L ch) and VR602 (R ch) so that the overall frequency response falls on as per Fig. 6.

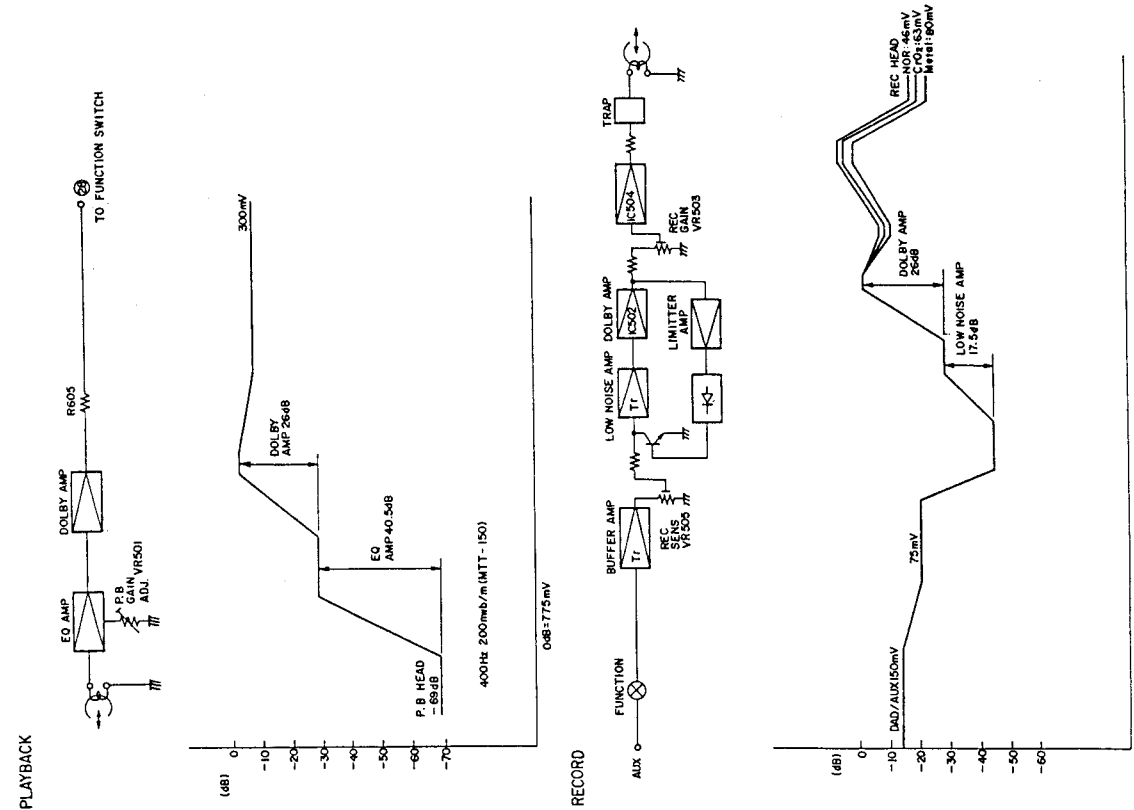
- Recording Level Adjustment
Set TAPE SELECT switch to CR0, position. Record and playback 400 Hz signal on the tape (DENON DX-7) and adjust VR503 (L ch) and VR504 (R ch) so that the voltmeter reads approximately the same voltage in recording as well as in playback.

- By doing above adjustment, adjustment for other type of Tapes is done automatically.

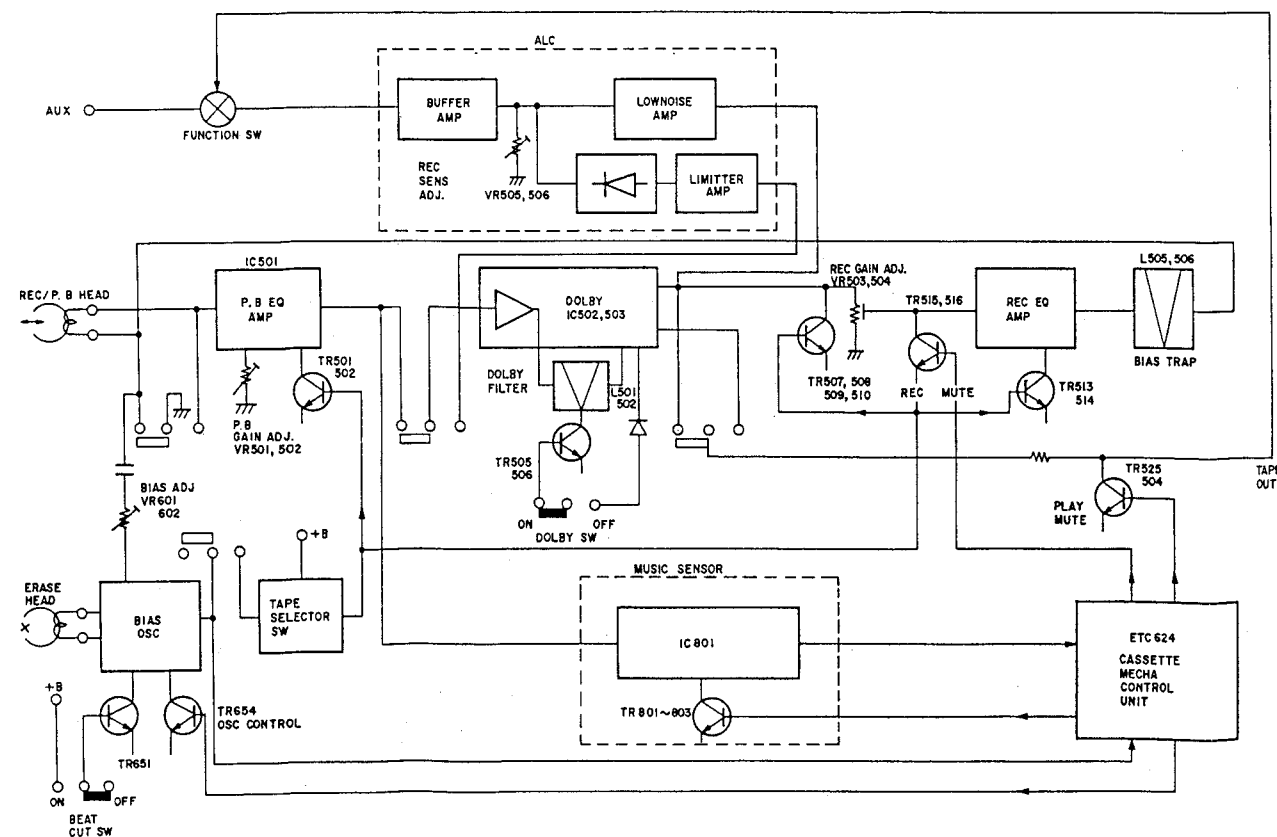


- In case if OSC coil (T601) is replaced, connect a frequency counter to either VR601 (L ch) or VR602 (R ch) and adjust T601 so that it reads 85±2 kHz, and then do the 3-1 and 3-3 adjustment.

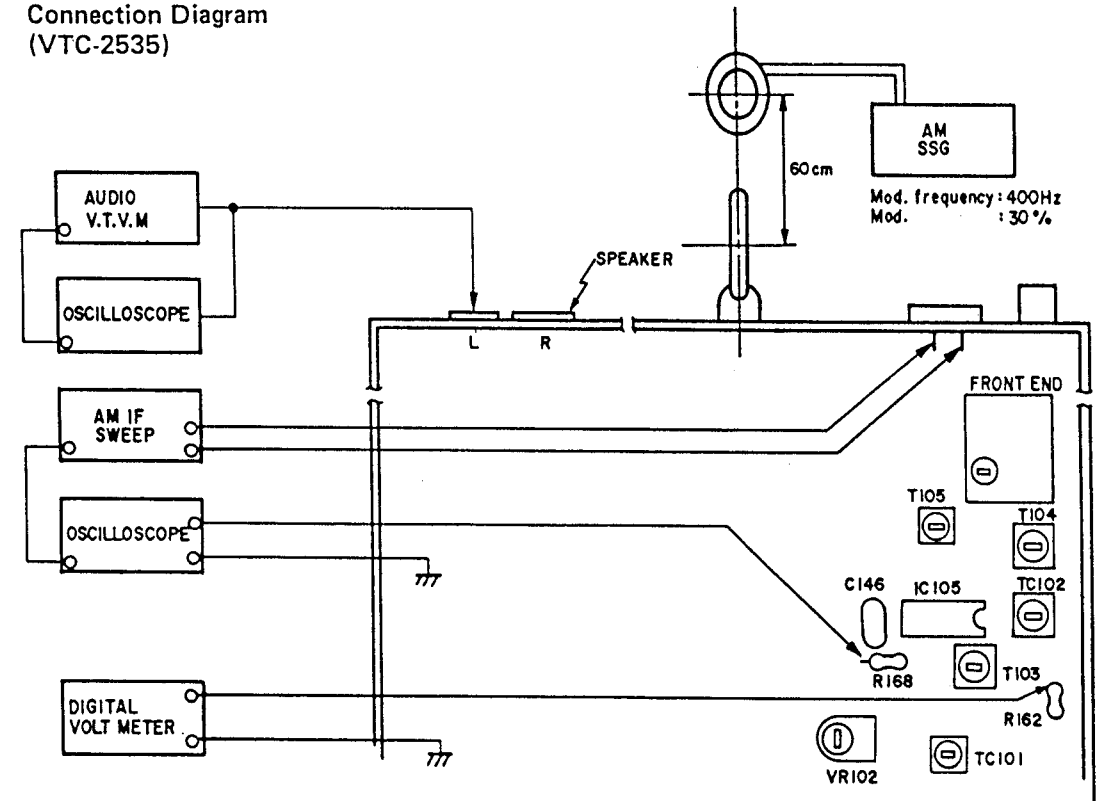
LEVEL DIAGRAM (DECK UNIT)
(VTC-2535)



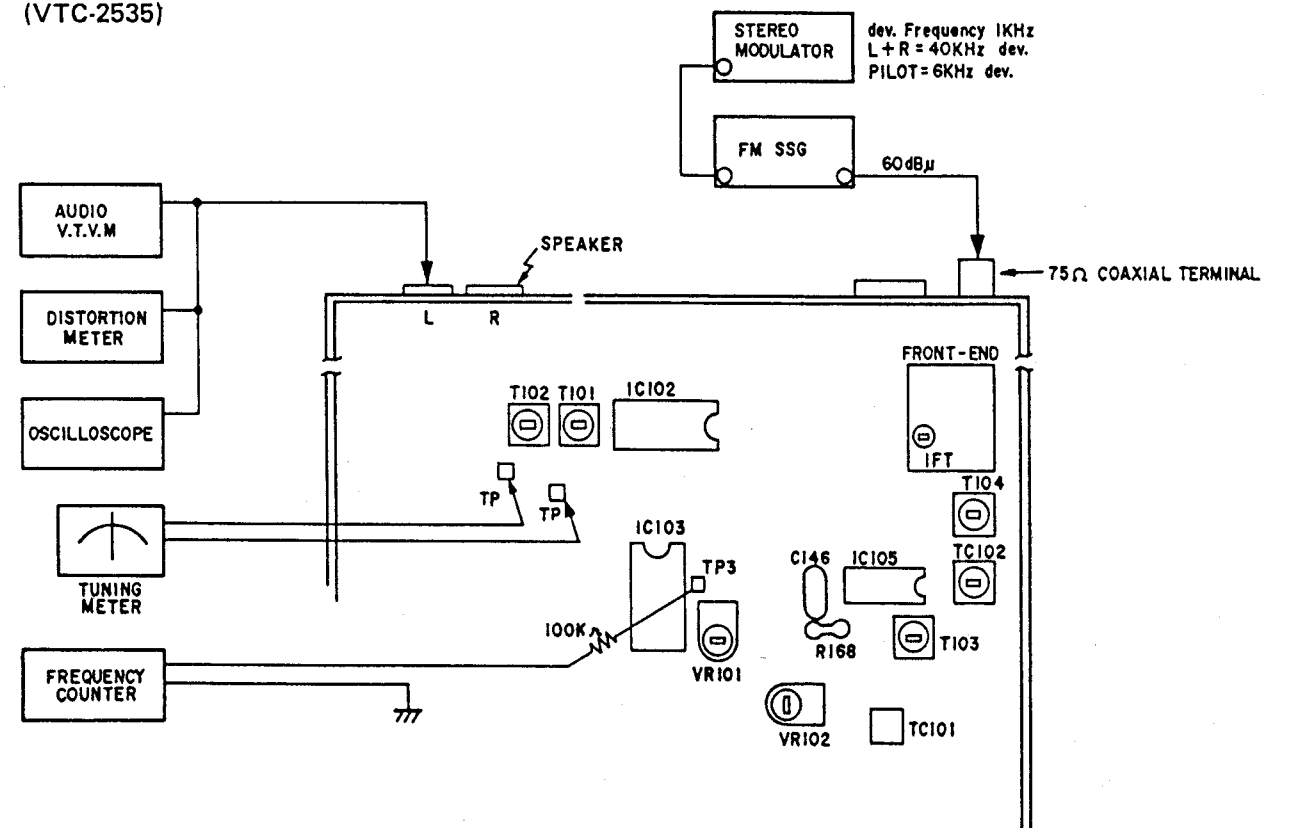
BLOCK DIAGRAM (DECK UNIT)
(VTC-2535)

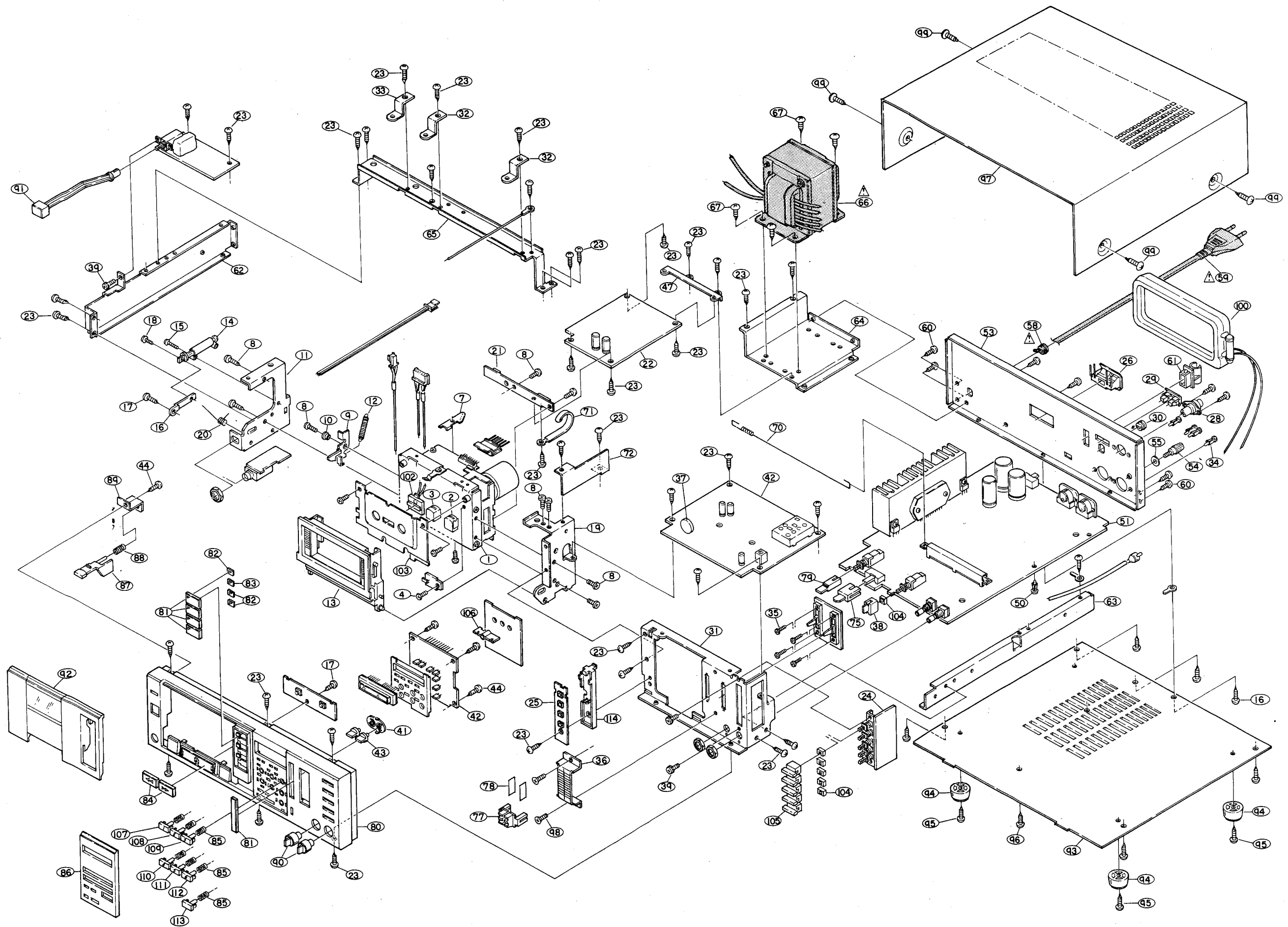


AM ALIGNMENT
Connection Diagram
(VTC-2535)



FM ALIGNMENT
Connection Diagram
(VTC-2535)





ZEILE	POSITION	SYM	BEZEICHNUNG	ET-NUMMER
1				
2			FM-WURFANTENNE 75 OHM-ANSCHLUSS	965 604 2
3				
4	9		AUSWURFSPERRE	988 727 4
5	11		CASSETTENFACH	988 728 2
6	14	A	DAEMPFER	987 206 0
7	20		FEDER FUER CASS.-AUSWURF	988 646 6
8	22			
9	26	C	STEUER-PLATINE	989 977 4
10	28		LAUTSPRECHER-BUCHSE	951 686 5
11	29		ANTENNENBUCHSE 75 OHM	988 647 4
12	34		ANT BUCHSE LMK	134 023 1
13	36		KUNSTSTOFF-NIPPEL	988 648 2
14	37		SKALENPLATTE FUER LAUTSTAERKE	988 649 0
15	38		LITIUM-BATTERIE	988 650 8
16	41		KNOPF SUCHLAUF MANUELL	988 651 6
17	42	C	FEDER FUER KNOPF MM-UKW	988 652 4
18	43		HF-PLATINE MIT UKW-TEIL KPL.	989 978 2
19	51	C	KNOPF MM-UKW	988 653 2
20	53	A	NF-PLATINE KPL.	989 976 6
21	61		RUECKWAND	989 975 8
22	66	A	ANTENNENHALTER	987 110 4
23	70		NETZTRAFO	988 654 0
24	75		A/W-FEDERSTANGE	988 655 7
25	77		KNOPF FUER BANDART	988 656 5
26	79		KNOPF FUER LAUTSTAERKE	988 657 3
27	80		KNOPF FUER DOLBY	988 658 1
28	81		FRONTBLLENDE	988 659 9
29	82		ZIERPLATTE FUER SENDERSUCHLAUF	988 660 7
30	83		FLUTLICHTSCHEIBE F. ZIERPLATTE	988 661 5
31	84		BLINDSCHEIBE FUER ZIERPLATTE	988 662 3
32	85		ZIERPLATTE VOR-RUECKLAUF	988 663 1
33	86		FEDER FUER DRUCKKNOPF	988 664 9
34	87		ABDECKSCHEIBE F. DISPLAY	988 665 6
35	88		KNOPF FUER CASS.-AUSWURF	988 666 4
36	90		FEDER FUER AUSWURFKNOPF	988 667 2
37	91		KNOPF FUER HOERE,BASS	988 668 0
38	92		KNOPF FUER NETZSCHALTER	988 669 8
39	94			
40	97	A	CASSETTENFACHDECKEL	988 670 6
41	100	A	GEH FUSS	121 203 4
42	102		GEHAEUSE-OBERTEIL	988 671 4
43	103		FERRITANTENNE	987 111 2
44	104		LED SLF-301C	988 673 0
45	105			
46	107		LAUFWERKABDECKPLATTE	988 672 2
47	108		PLASTIKZWISCHENSTUECK F.DRUCKKN.	988 674 8
48	109		KNOPF FUER TASTENSATZ	988 675 5
49	110		KNOPF FUER SENDER 1	988 676 3
50	111		KNOPF FUER SENDER 2	988 677 1
51	112		KNOPF FUER SENDER 3	988 678 9
52	113		KNOPF FUER SENDER 4	988 679 7
53			KNOPF FUER SENDER 5	988 680 5
54			KNOPF FUER SENDER 6	988 681 3
55			KNOPF FUER MEMORY	988 682 1
56				
57			ELEKTRISCHE TEILE :	
58			NETZTRAFO	988 654 0
59			LAUTSPRECHER-BUCHSE	951 686 5
60			ANTENNENBUCHSE 75 OHM	988 647 4
61			ANT BUCHSE LMK	134 023 1
62				
63		A	DIN BUCHSE 5 POL.	954 404 0
64			KOPFHOERERBUCHSENPLATINE	967 288 2
65			NETZSCHALTER	988 690 4
66		A	TASTSCHALTER	988 691 2
67			UKW-TEIL	988 708 4
68				
69			DISPLAY SL-2611	988 706 8
70	X101		QUARZ 7.2 MHZ	988 707 6
71				
72	CF101-103		FM-KERAMIKFILTER SFE 10.7 MS26A	988 703 5
73	CF104		AM-KERAMIKFILTER BFU 450C4	988 704 3
74	CF105		AM-KERAMIKFILTER SEP 450H	988 705 0
75	D101-114		DIODE 1 S 2076	176 432 3
76	D115,116		CAP.-DIODE SVC 321SP-D2	988 694 6
77	D117		DIODE 1 S 2076	176 432 3
78	D201-203		LEUCHTDIODE LN 210 RP	953 936 2
79	D204-209		LEUCHTDIODE LN 317 GP	965 040 9
80	D210		LEUCHTDIODE LN 210 RP	953 936 2
81	D401-403		DIODE 1 S 2076	176 432 3
82	D501-504		DIODE 1 S 2076	176 432 3
83	D651,652		DIODE 1 S 2076	176 432 3
84	D801-803		DIODE 1 S 2076	176 432 3
85	D804		LEUCHTDIODE SLR-30 AR	968 453 1
86	D805		LEUCHTDIODE CRQ 87 N	966 845 0
87	D806		LEUCHTDIODE GL-3PG1	948 461 9
88	D807-816		DIODE 1 S 2076	176 432 3
89	D817-821		DIODE RV 06	988 687 0
90	D850-852		DIODE 1 S 2076	176 432 3

METHOD OF ADJUSTMENTS

Carry out adjustment at room temperature and normal humidity with the power source operating at the rated voltage.

FM/MPX ALIGNMENT		SELECT SWITCH : FM MODE SWITCH : stereo/mute											
STEP	ITEM	RECEIVING FREQUENCY	INPUT SIDE					OUTPUT SIDE			ADJUST	ADJUST LIMIT	REMARKS
			INSTRUMENT	FREQ.	INPUT LEVEL	MODULATION	COUPLING	INSTRUMENT	CONNECTION				
1	19 kHz	98.0 MHz	FM S.S.G.	98.0 MHz	60 dBμV	1 kHz 40 kHz dev.	ANT. terminal	Frequency counter	TP-3	VR101	19 kHz ±50 Hz		
2	Tuning meter to center position	98.0 MHz	FM S.S.G.	98.0 MHz	60 dBμV	1 kHz 40 kHz dev.	ANT. terminal	Tuning meter	Between TP-1 & TP-2	T101	Tuning meter to center position		
3	Minimum distortion (mono)	98.0 MHz	FM S.S.G.	98.0 MHz	60 dBμV	1 kHz 40 kHz dev.	ANT. terminal	Distortion meter	Rec output terminal (L-channel)	T102	Minimum distortion		
4	Minimum distortion (stereo)	98.0 MHz	FM S.S.G. STEREO SG	98.0 MHz	60 dBμV	1 kHz MAIN 40kHz PILOT 6kHz	ANT. terminal	Distortion meter	Rec output terminal (L-channel)	Front end IFT core	Minimum distortion		
5	Tuning meter center position minimum distortion	Repeat Step 2, 3, 4 so that the pointer of the tuning meter comes to the center when minimum distortion is obtained.											

AM ALIGNMENT		SELECT SWITCH : AM										
1	AM IFT	—	AM IF Sweep generator	—	Below AGC level	—	AM ANT. terminal	Oscillo-scope	R168	T105	Maximum height and best sym-metry curve	Function AM
2	T301	522 kHz (LOW END) 1611 kHz (HIGH END)	—	—	—	—	—	Digital voltmeter	R162	T103	1.2V±20mV	Function AM
3	OSC trimmer	1611 kHz	—	—	—	—	—	Digital voltmeter	R162	TC101	8.0V±20mV	Function AM
4	Repeat Step 2 and 3 so that the tuning voltage at 522 kHz & 1611 kHz are within the adjust limit.											
5	TRACKING	603 kHz	AM S.S.G.	603 kHz	Below AGC level	400Hz 30%	Loop ANT.	VTVM	Rec output terminal (L-channel)	T104	Maximum audio output	Function AM
6	TRACKING	1404 kHz	AM S.S.G.	1404 kHz	Below AGC level	400Hz 30%	Loop ANT.	VTVM	Rec output terminal (L-channel)	TC102	Maximum audio output	Function AM
7	Repeat Step 5 and 6 so that 603 kHz and 1404 kHz are received at maximum gain, respectively.											
8	Signal LED level	999 kHz	AM S.S.G.	999 kHz	55 dBμ/m	400 Hz 30%	Loop ANT.	—	—	VR102	Signal LED on.	—

S.S.G. Setting frequency FM : ±2 kHz AM : ±50 Hz

ZEILE	POSITION	SYM	BEZEICHNUNG	ET-NUMMER
87	D901,902		ZENERDIODE ZF 18	175 387 0
88	D904		ZENER-DIODE WZ 120	952 940 5
89	D905-907		DIODE 1D2C1	950 912 6
90	D908,909		DIODE 1D2Z1	950 913 4
91	D910		ZENERDIODE ZF 18	175 387 0
92	D911		DIODE 1 S 2076	176 432 3
93	D912		DIODE RV 06	988 687 0
94	D913		DIODE 1 S 2076	176 432 3
95	F904		SCHMELZSICHERUNG 6.3A FLINK	162 111 9
96	JC101		INTEGRIERTE SCHALTUNG TA 7060 P	949 235 6
97	JC102		IC HA 11225	988 692 0
98	JC103		INTEGRIERTE SCHALTUNG HA 1156	921 583 1
99	JC104		IC M 5218 L	988 693 8
100	JC105		INTEGRIERTE SCHALTUNG TD 6104 P	985 454 8
101	JC106		INTEGRIERTE SCHALTUNG LA 1245	968 080 2
102	JC107		INTEGRIERTE SCHALTUNG TC 9147 P	985 450 6
103	JC201		INTEGRIERTE SCHALTUNG TD 6301 AP	985 480 3
104	JC301		IC NJM 072 DE	988 709 2
105	IC401		INTEGRIERTE SCHALTUNG NJM 4558 D	950 628 8
106	JC402		IC STK 4141 II	988 710 0
107	JC501		IC UPC 1228 H	988 711 8
108	JC502,503		INTEGRIERTE SCHALTUNG LM 1112 C	985 211 2
109	JC504		IC LA 6458 DS	988 712 6
110	JC801		INTEGRIERTE SCHALTUNG M 51143 L	985 182 5
111	JC802		IC MSL 9316 RS	988 683 9
112	JC803		IC M 54519 P	988 684 7
113	JC804		IC DM 101 A	988 685 4
114	JC805,901		IC NJM 78 M 05 A	988 686 2
115	L101		INDUKTOR 2,2 UH	988 695 3
116	L501,502		DOLBY-FILTER	988 716 7
117	L503,504		INDUKTOR 4.7 MH	988 717 5
118	L505,506		DROSSEL	988 718 3
119	LP101		FILTER	988 696 1
120	LP102,103		FILTER	988 697 9
121	R451		SICHERUNGSWIDERSTAND 100 OHM	965 816 2
122	R859		SICH.-WIDERSTAND 22 OHM 1/4 W	969 803 6
123	R901,902		SICHERUNGSWIDERSTAND 100 OHM	965 816 2
124	SW401		TASTENSATZ 5-FACH	988 689 6
125	SW501		DRUCKSCHALTER DOLBY	988 720 9
126	SW502		SCHIEBESCHALTER BANDART	988 721 7
127	SW503		DRUCKSCHALTER MANUELL	988 722 5
128	SW651		SCHIEBESCHALTER BEAT CUT	988 723 3
129	T101		FM-ZF-FILTER	988 698 7
130	T102		FM-ZF-FILTER	988 699 5
131	T103		MW-OSZILLATORSPULE	988 700 1
132	T104		MW-ANTENNENEINGANGSSPULE	988 701 9
133	T105		AM-ZF-FILTER	988 702 7
134	T601		LOESCH-OSZILLATORSPULE	988 719 1
135	TR101		TRANSISTOR 2 SC 461 B	175 333 4
136	TR102-114		TRANSISTOR 2 SC 1815 GR	947 335 6
137	TR115		TRANSISTOR 2 SA 1015	949 017 8
138	TR116		TRANSISTOR 2 SC 1815 GR	947 335 6
139	TR117		TRANSISTOR 2 SK 163 M	965 809 7
140	TR118,119		TRANSISTOR 2 SC 1815 GR	947 335 6
141	TR120		TRANSISTOR 2 SA 1015	949 017 8
142	TR121,122		TRANSISTOR 2 SC 1815 GR	947 335 6
143	TR201-203		TRANSISTOR 2 SC 1815 GR	947 335 6
144	TR301,302		TRANSISTOR 2 SK 108 E	988 713 4
145	TR501-522		TRANSISTOR 2 SC 1815 GR	947 335 6
146	TR523,524		TRANSISTOR 2 SC 2320 F	952 759 9
147	TR525		TRANSISTOR 2 SC 1815 GR	947 335 6
148	TR651		TRANSISTOR 2 SC 1841 E/F	988 714 2
149	TR652,653		TRANSISTOR 2 SC 2320 F	952 759 9
150	TR654		TRANSISTOR 2 SC 1815 GR	947 335 6
151	TR801-803		TRANSISTOR 2 SC 458 B	175 434 0
152	TR804,808		TRANSISTOR 2 SA 999 F	952 760 7
153	TR805-807		TRANSISTOR 2 SC 458 B	175 434 0
154	TR809-812		TRANSISTOR 2 SC 458 B	175 434 0
155	TR813		TRANSISTOR 2 SC 2236	949 043 4
156	TR814-816		TRANSISTOR 2 SC 458 B	175 434 0
157	TR850		TRANSISTOR 2 SA 999 F	952 760 7
158	TR851		TRANSISTOR 2 SC 458 B	175 434 0
159	TR852,853		TRANSISTOR 2 SA 999 F	952 760 7
160	TR901		TRANSISTOR 2 SC 458 B	175 434 0
161	TR902		TRANSISTOR 2 SA 1015	949 017 8
162	TR903,906		TRANSISTOR 2 SC 1815 GR	947 335 6
163	TR984,905		TRANSISTOR 2 SD 1406 O/Y	988 754 8
164	VR401,402		DREHPOTI 100 K BASS,HOEHE	988 715 9
165	VR403,404		SCHIEBEREGLER 100 K,LAUTSTAERKE	988 688 8
166				
167			CASSETTENLAUFWERK 9887241 :	
168				
169	2		CASS.FUEHRUNG	985 233 6
170	4	A	FEDER FUER CASSETTE	967 418 5
171	5	A	FUEHRUNGSTIFT	967 376 5
172	6	A	STIFTPOLSTER	967 377 3

ZEILE	POSITION	SYM	BEZEICHNUNG	ET-NUMMER
173	7	A	AUFNAHMESPERRE	967 379 9
174	8	A	FEDER	967 380 7
175	11		HALTER FUER ZWISCHENRAD	995 339 9
176	12	A	ZWISCHENRAD	967 381 5
177	17		EINSCHALTSPERRHEBEL	995 340 7
178	18		FEDER FUER SPERRHEBEL	995 341 5
179	19		A/W-KOPF	988 725 8
180	20		LOESCH-KOPF	988 726 6
181	21	A	DRUCKFEDER	967 383 1
182	22		KOPFTRAEGER	985 237 7
183	24		GUMMIANDRUCKROLLE	995 342 3
184	26,27		MIKROSCHALTER	995 343 1
185	28	A	ACHSLAGER	967 392 2
186	29		SCHWUNGMASSE	995 344 9
187	30		ANTRIEBSRIEMEN	995 345 6
188	35		HINTERES LAGER	985 242 7
189	38		MOTOR, MABUCHI EG-510ED-2B2, 12V	965 151 4
190	39		MOTORPULLEY	985 255 9
191	41	A	BREMSARM LINKS	967 399 7
192	42	A	BREMSARM RECHTS	967 400 3
193	44		WICKELTELLER RECHTS	995 346 4
194	45		WICKELTELLER LINKS	995 347 2
195	46	A	DRUCKFEDER	967 389 8
196	47		HALTERUNG FUER ZWISCHENRAD	995 348 0
197	49		ZWISCHENRAD	995 349 8
198	52	A	FEDER	967 410 2
199	54	A	FEDER	967 411 0
200	56		FEDER	995 350 6
201	57		FEDER	995 351 4
202	58	A	ZAHNRAD	967 414 4
203	59		ZAHNRAD	995 352 2
204	60		ARM	995 353 0
205	61		ARM	995 354 8
206	63		RUTSCHKUPPLUNG	995 355 5
207	64		RIEMEN FUER RUTSCHKUPPLUNG	995 356 3
208	65		MAGNET-SPULE	995 357 1
209	66		MAGNET-SPULE	995 358 9
210	67		SPULENKERN	985 257 5
211	71		MAGNET-SPULE	995 359 7
212	72		MAGNET-SPULE	995 360 5
213	73		MAGNET-SPULE	995 361 3
214	76		ARM	995 362 1
215	79		ARM	995 363 9
216	82		FEDER	995 364 7
217	86		ZAHNRAD	995 365 4
218	87		ZAHNRAD	995 366 2
219	88		ZAHNRAD	995 367 0
220	89		ARM	995 368 8
221	92		HEBEL, AUFNAHME	985 234 4
222	312		UNTERLEGSscheIBE, KUNSTSTOFF	924 613 3
223	313		SICHERUNGSScheIBE 1,4X4X0,3 MM	946 940 4
224	314		SICHERUNGSScheIBE 1,2X3X0,25 MM	986 045 3
225	322		KUGEL 2MM	922 260 5
ENDE				